

# Improving stack uptime by 32.8% at a major thermal power producer, using EverSense for Continuous Emission Monitoring System

 West Bengal, India

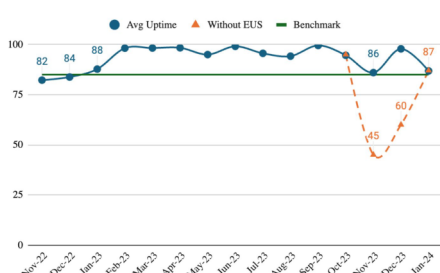
 Power

## Problem

A major power producer in Eastern India was struggling to meet government-mandated compliance norms across its network of thermal power stations. While regulations required a minimum stack uptime of 85%, the plants were averaging to 67%. The primary challenge lay in probe choking, which often went undetected. When completely choked, costly probe replacements were needed, taking months to procure and causing severe disruptions. Even when detected earlier, partial choking (50–60%) still led to avoidable downtime of nearly two days during cleaning and re-installation. Without digital monitoring, linking uptime drops to probe choking remained difficult, further complicating diagnosis and timely intervention. This situation not only threatened compliance, with the risk of penalties or even plant closure, but also undermined operational reliability. The objective was clear: to reduce the risk of non-compliance by ensuring accurate and reliable emissions monitoring while improving average stack uptime from 67% to above 85% across eight thermal power station units.

## Solution

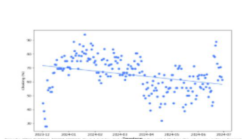
EverSense for CEMS, a Forbes Marshall Digital solution, enabled the conglomerate to address these challenges. Real-time digital tracking with predictive analytics, allowed issues to be detected and resolved at an early stage. For instance, when the probe reached 10–20% choking, they could be identified and cleared with purging air, avoiding downtime altogether. A centralised dashboard offered complete visibility into stack performance, supporting data-driven decisions on coal blending, planned shutdowns, and component replacements. Expert intervention ensured accurate diagnosis of anomalies, while weekly performance reports flagged risks and recommended best practices for sustaining uptime. Predictive plotting of probe choking enabled proactive maintenance, eliminating costly probe replacements and months of operational loss.



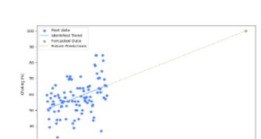
In October 2023, the probe experienced unnecessary choking, causing uptime to drop from 89% to 86%. Due to the plant being digitally enabled, real-time digital monitoring helped the issue to be immediately identified and corrected. Without this digital intervention, the problem would have remained unnoticed, potentially dragging uptime down to as low as 45%.



Dec 23: data model predicting probe choke in Jul24



Apr 24: Corrective action (30 min Purge) brings the Choke levels down



in Apr'24 Prediction indicates the probe will not choke till mar 25

By analysing probe choking patterns through predictive plotting, we were able to take proactive corrective actions and establish timely cleaning of the components, eliminating the need for costly product replacements later.

## Benefits delivered

	Pre Service	Post Service
<b>Average Uptime</b>	67%	89%

